Being human: An AI based android application for improving, easing and enhancing our lifestyle

School of Engineering & Technology
Sharda University, Greater Noida

Divyansh Arun
School of Engineering and Technology,
Sharda University,
Greater Noida, India
2018001292.divyansh@ug.sharda.ac.in

Karun Sahani
School of Engineering and Technology,
Sharda University,
Greater Noida, India
2018016383.karun@ug.sharda.ac.in

Ansh Gangwar
School of Engineering and Technology,
Sharda University,
Greater Noida, India
2018015514.ansh@ug.sharda.ac.in

Samrat Borah
School of Engineering and Technology,
Sharda University,
Greater Noida, India
2018015065.samrat@ug.sharda.ac.in

Gunjan Aggarwal
School of Engineering and Technology,
Sharda University,
Greater Noida, India
gunjan.aggarwal@sharda.ac.in

Abstract- **Nowadays the core and fundamentals is weakened and it is lacking especially in the youth. Primarily focusing on the youth's lifestyle, 'Being A Human' is an android application which will help users in easing, improving and enhancing their lifestyle.This is an AI(Artificial Intelligence) based application. In our busy and hectic life we all need something to hold our details, to keep reminding us for our daily essentials and need. From health to relationship, this application is like your virtual personal manager, enhancing your lifestyle with a touch of artificial intelligence. The features of the application makes it an unique application as summing up the features it's like an all in one application having features of more than ten different applications.**

Index Terms- being human application, youth lifestyle improving application, all in one for improving easing and enhancing our lifestyle, virtual wardrobe application, what's in my fridge application, female periods tracking application.

I. INTRODUCTION

This application will be providing a lot of helpful features which will help users in easing and improving their lifestyle. In the application we'll take few information from the user at the time of sign up. We'll take name, gender and date of birth information. After that we'll show the list of features we're providing. For using any specific feature of the application, the user may need to give some more information which will be saved in the application database.

Talking about the features of the application, the first feature of the application is that, it will tell you the days on which you don't prefer eating non-vegetarian foods, at the time of using this feature, for the first time you'll need to enter the days on which you don't eat non-vegetarian foods

and in the application homepage it will show you a red cross icon if you're not supposed to eat the food on that day or a green tick icon if you can eat that day with a proper graphical user interface, also in non veg edible day, the application will show you the best restaurants nearby. The same will happen with hair cutting and beard trimming option, as an input the application will ask for the days on which the user don't prefer going to salon, and on the salon day, nearby salons with direction will be shown to the user. Also the user can add the last date he went to salon just for future reference, so the user can track his salon visiting history in to the application analytics .

The second feature of this application will find out and tell you that you should wash and dry your clothes or not, for this the application will find out your location's weather and by using artificial intelligence it will warn you if the weather is not suitable for drying your clothes. The prediction and suggestion for washing your clothes or not will be calculated on the basis of temperature, wind speed, humidity, chances of rain and moisture percentage. For female users, the application offers a feature named 'Periods Tracker' which 1will keep record of their menstrual cycle, in which they'll need to select the days of the month they experience the menstrual cycle. Also it will show how many days left in next cycle and it will warn if the period is delayed to the user.

Being human application will keep a record of 'what's in your fridge' too?, where the user will have to enter the vegetables, beverages, dairy products they're having in the fridge, and by using the items added in the application, the application will suggest some dishes/ recipes along with the preparation method using the same ingredients which are available in the refrigerator.

The application is offering you a virtual wardrobe where the user will have to add pictures of the clothes and using artificial intelligence it will suggest combinations of outfits every day to

2the user following the recommended color for different days of a week and the best matching outfit combinations and it will make it easier for the user to choose outfit of the day, also the user can set if any clothis in laundry, so it won't suggest that cloth. The application has a built in to-do list where the user can add things which they're planning todo in their daily/weekly or monthly routine and the user can check them with tick once it's done.

This application can also be used for managing your routine and also it will remind you your important meals/ supplements/ medications of your diet on the time you set it to. For your relationship management, the application will help you being connected with your relatives and friends as you'll need to select the day of a week on which it will remind you to talk to your relatives and friends, all you'll need to do is to select some favourite contacts from by picking it from your contact list. The application can also hold your workout and exercise plans and also it will have a fact section where everyday new interesting fun facts will be pushed. The applicationwill have an 'expense management' section where the user can add their daily expenses and at the end of the month they can see the total money they spent in that month with proper analytics. Water is the most essential fuel for us and in a government study it has been found that 40% of Americans drink less water than their daily requirement[1], which further becomes primary reason for kidney malfunction and many more diseases, so taking care of the user's water intake if the user enables the settings the application will keep reminding the user to drink water at regular intervals so the user will fulfill the adequate intake of water

People are too much occupied these days in their day to day life and they miss some important activities from their lifestyle, also the youth these days has adapted a lifestyle which is affecting their growth and mental health in long term. Also the youth are missing their ethics which should be followed. The purpose ofthis application is to be an one click place where they're having theirown analytics which will help remembering the things which they forget in their busy life. The main motivation for this application is just enhancing our lifestyle and also making lifestyle pretty easy with just few clicks into the application. A good lifestyle is very important for being mentally and health wise fit and that's the primary goal of the application.

In earlier times, the main purpose of clothes was to protect our body from environmental factors and cold/hot weather, but now clothes are main source of your fashion representation. Also your outfit says a lot about your personality. The proposed system aiming to ensure minimal, optimized, android application with responsive and user friendly interface which will help users in many ways. The application's virtual wardrobe also offers an outfit recommender, you can have a complete access to this virtual wardrobe so you can see all the clothes you're having

in your wardrobe. The application's algorithm is trained in a way that it follows latest fashion trends for suggesting you the best combos and outfits.

II. STUDIES AND FINDINGS

During the planning part of this application, we researched on various parameters what humans are lacking in their daily lifestyle which can be improved in a very simple manner.

A. Recommended Water Intake - Drink 8 Glasses of Water a Day, Causes of Inadequate Water Intake

As mentioned earlier in this paper, in a survey of 'Centers for Disease Control and Prevention'. It has been found that 40% of Americans drink less than four cups of water a day[1]. Thatincludes 36 percent who drink one to three cups, and 7 percent who drink none[1], which causes a lot of problems in long term from slow metabolism to severe kidney dysfunctions. Adding water before meals helps you eat less if we are making an attempt to slim. This paper presents us with the causes of drinking less water, and coming to a solution for those who drink less water than their daily requirement, the paper proposes to drink a small amount of water in regular interval of time. It is not important to drink 2 glass back to back, but you can split it into half glass every half an hour and by this you will consume 2 glasses of water in 2 hours and so on. The water reminder section of the application is designed in this way only, so it will keep on reminding the user by sending notifications.

B. The procrastination measurement and procrastinationproblem with youth

In a study it is found that procrastination affects 70% of students[2], and around 25% adults prefer procrastination to be a character trait for them. [2] The paper proposes us with the impact of procrastination and how youth is growing in unproductive approach. The implementation into the system is done in a way that it makes things easy and organized digitally for users so the primary reason for their procrastination habit is into the application on some finger tips, also this paper proposes that reminding again and again about the activity a person is procrastinating, it leads the person to complete it.

C. Females not monitoring their menstrual cycle

After the age of puberty, a lot of women experience irregular menstrual cycle. However, according to doctors and physicians, it's normal for the menstrual cycle to vary by some days. According to American Academy of Family Physicians, between 9 to 14% of women have irregular periods between their first period and menopause[3], but on the other hand it is very important to track their periods so at the time of diagnosis a proper analytics will be helpful for doctors. The paper presents us that a woman should have a proper logs of her menstrual cycle including number of days periods is delayed by.

D. Youth lacking in their expense tracking

Tracking and monitoring our expenses in one of the main factor for planning our budget. If we know how much we've spentevery month, it will be very easy planning our expenses, saving and investments. In a survey of American college, only 13% of people track their monthly expenses[4]. Also the paper proposes that tracking your expenses helps you in saving money indirectly and it is important for youth who get pocket money to even a salaried person. The application comes with an expense tracker section where a user can note down their expenses with proper description and categorie

III. PROBLEM STATEMENT

The challenge of this application is to make an easy to use graphic friendly application in such a small size and least ram consuming processing of the application n, so it can even run on a low end android device. As this application is having techniques based on Artificial Intelligence, along with a lot of features packed within a single screen on the application, it's a big challenge keeping the application size small and making this application compatible even on low end android devices.

i. In laundry check feature, the application needs an internet connection for getting the location of the user. So in case of 'no internet connection', this feature won't work.

ii. In virtual wardrobe section, AI is trained for identifying the color of the clothes, so the phone's camera plays a major role, in case of poor lighting and difference in the color of the image, it can suggest wrong combinations.

iii. The user will have to update 'what's in my fridge' section data every time, whenever any fridge item is used. In case of not updating the data, the application will show incorrect information and suggestions.

IV. LITERATURE REVIEW

A. Outfit recommender based on colors

Constructing a productive style suggestion every day for different outfits by taking care of the latest trend and combinations which will be liked by people of different taste is a typical framework with a high multifaceted nature. Previously research works on such fashion recommendation system is done, but since the success of this system is a subject of matter which depends from person to person, it's not widely accepted. An olive t-shirt with beige trouser can be liked by someone but onthe other hand maybe some people would not like it. The paper proposes about the different tastes of people in apparels, but this application just make suggestions from what you're having in your wardrobe, just your clothes. Despite showing suggestions of random clothing, it's just your own virtual wardrobe where you'll have complete collection of your own clothes. The random suggestions also lead to product unavailability and hence the users are unable to find same or similar looking outfits. Also according to *vaastu shashtra* and *feng shui,* particular colors are prescribed to wear on different days of a week, which helps in your good luck, health, wealth and prosperity[5].

B. Identifying colors of added clothes

The first step of the outfit recommender is based on fetching color of the added outfit. The system picks the color which is widely used in an outfit, like if there's a black shirt with white patterns in it, then the system will pick the black color as it is majorly used in the cloth. The system is designed in a way in which it scans for the base color and various different shades of that colors are associated with that base colors as it is not possible to add 16 millions color code, so gradient pallet is used for selecting range of colors. The color picking algorithm is implemented in a way that it adjusts the exposure of the clicked picture of the cloth so it can scan for the actual color, as colors differ in different lighting condition.

C. Weather analysis and prediction

An android application can take permission of location only but by using that location the weather can be determined. Since smart-phones don't have any temperature sensor, the weather can only be identified by using any weather API along with GPS access. The paper proposes the ideal temperature and weather type suitable for drying clothes. Temperature, weather type and humidity all are proportional to this system. Different parameters is used for different weather type like overcast, sunny, rainy along with temperature range. The system helps in evaluating the real time weather scenarios and recommend suggestion for drying clothes according to the weather.

D. Virtual refrigerator and wardrobe management system

Managing your refrigerator items on your phone is very helpful as if you're at a shop you'll know about what things you're having in your fridge already and what you've to buy. This virtual refrigerator management system needs to be updated every time you add or remove something from your fridge. The best part of this implementation is that it also suggests you different recipes based on the items you're having in your fridge. The menu for adding and removing items is categorized from dairy products to vegetables and different recipes along with the tutorial, the recipe is added into the application's database and more recipes can be added by the backend anytime.

Coming to the virtual wardrobe is like your own digital wardrobe in which you can scan and add all the clothes you're having into your wardrobe and this is one time process after that you can virtually look into your clothes, also it comes with an option of day wise outfit recommender.

V. PROPOSED SYSTEM

In this project, we propose an all in one android application which aims to improve, ease and enhance human's lifestyle. It isa great platform for youngsters as a lot of information are organized within the application, and also the user can use this application like their virtual personal manager.

This mobile application can be used for suggestions, recommendations, organization and also management purpose. Some features of the application like virtual wardrobe and outfit recommender is based on artificial intelligence. Users can scan their clothes and add it into application's virtual wardrobe. The application will also suggest outfit of the day to the user based on latest trend and also the best matching combinations to the user by scanning colors from the outfit. Some other features are female periods tracker, water drinking reminder, refrigerator management, laundry checker and more.

A. Features

i. Users can see weather condition and the application will suggest if it's a suitable time to wash and dry your clothes or not.
ii. Users can make a virtual wardrobe within the application, and day wise outfit is recommended to the user.
iii. Users can manage their refrigerator virtually and the application will suggest recipes based on the ingredients available in the refrigerator .
iv. Users can track their expenses with proper analytics.
v. Female users can track their menstrual cycle with logs.
vi. Users can make a to- do list and medicine chart.
vii. Users can track their water consumption.
viii. Users see different facts everyday .
ix. Users get notified to call their loved ones .
x. Users can simply see nearby restaurants and salons if it is a non - veg eating day and a salon day
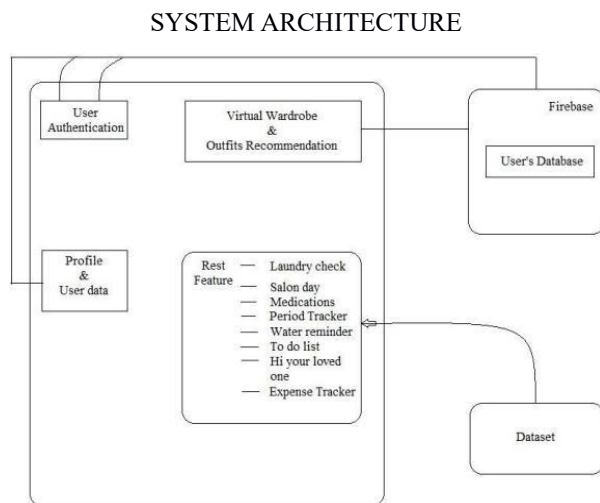
SYSTEM ARCHITECTURE

Fig 1. System Architecture

The application is based on three main components which uses artificial intelligence and particular data set for individual feature. Virtual wardrobe and outfit recommender is based on artificial intelligence as the application's inbuilt camera scans for the color present in

cloth along with the color code by which it makes decision in outfit recommender section. User can create multiple drawers and can add different outfits.

1.) User authentication is the initial step which is the login/ sign up part of the application. User can login directly by Google account as authentication is linked by Google Firebase. User's data such as name, age, avatar picture will be taken from Google account and also application based user's data will be linked with the account. User can remove his/her data from the Google account whenever they wish to, and can logout anytime too.

2.) Virtual wardrobe and outfit recommender is the main feature of this application and in this the user can create a drawer, within that drawer the user can add several outfits. Outfits can be added by clicking picture of the outfit using the application's in built camera, the camera is trained in a way that it scans for the color in real time along with the hex code. Color code is picked as soon the shutter button of camera is pressed, then the algorithm calls the hex code and the algorithm returns the color name then the image of the outfit is saved with the color name. The hex code finds the base color and then day wise recommendation is done by the application. The AI of the application scans the colors and on the basis of color suggested day-wise by *Vastu Shashtra* it suggests the upper body outfit and the lower body outfit is recommended according to the intensity of upper body outfit suggested. Generally dark colors is paired with light color upper body outfit and vice-versa. The color picker is based on real time as it keeps scanning the color and with the shutter button press, it traps and save the hex code in the back end, which is later used for recommendation purpose.

Days	Colors Preferred	Base Color	RGB Code
Monday	white	Floral White	#FFFAF0
Tuesday	red	Indian Red	#CD5C5C
Wednesday	green	Lime Green	#32CD32
Thursday	yellow	Light Yellow	#FFFFE0
Friday	light blue/white	Alice Blue	#F0F8FF
Saturday	purple/black	Rebecca Purple	#663399
Sunday	pink/maroon	Maroon	#800000

3.) Profile is the user's account page which contains user's data and option to logout. The data is retrieved from Firebase and name, gender, profile picture, age is taken from Google account access.

4.) Rest features are linked with the data set as different conditions are set for different features, like different parameters are set for different temperature and weather conditions. Same with 'What's in my fridge' section, as the data set of recipe is shown if the condition matches as

the ingredients should be present in the fridge. The user can add and remove ingredients with just single click.

5.) Database of the application contains the images of outfits of the user added in the virtual wardrobe, ingredients of fridge are updated in database, veg/non veg and salon day's data, to-do list data, periods log all are stored in the application's database which is synced with the Google account. Images are stored locally and synced later on Firebase, as calling images from server makes the application slow.

VI. USE CASE DIAGRAM
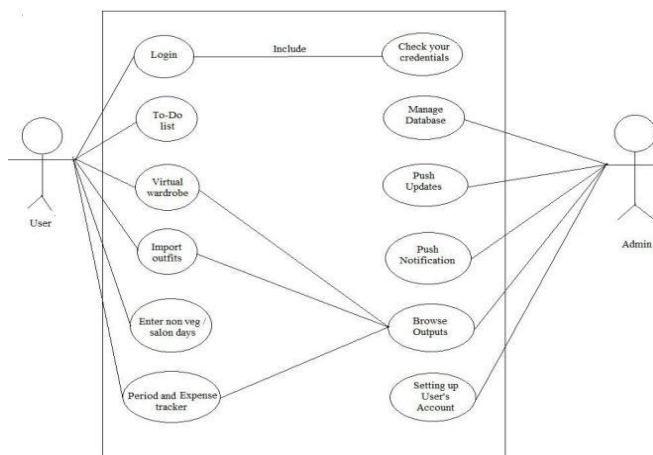
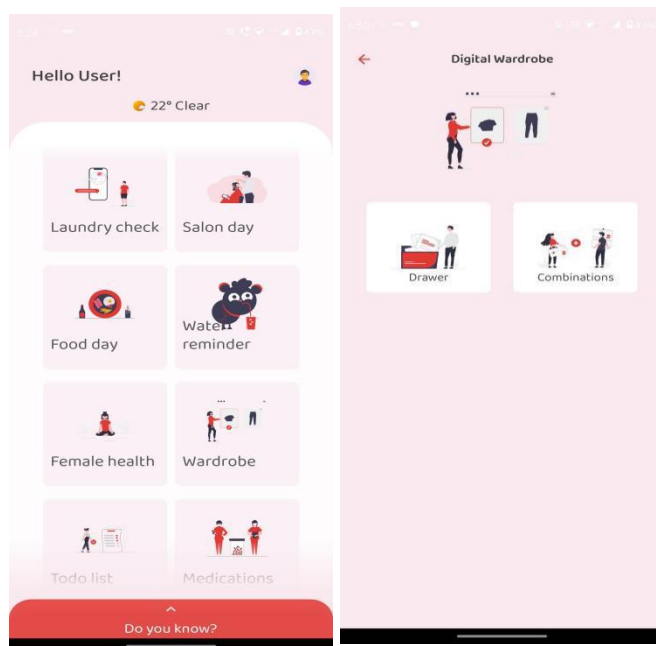Fig 3.Use case diagram

VI. RESULT

Fig 4. Screenshot of application

VII. CONCLUSION

The application offers some unique features which aren't existing right now in terms of applications like virtual wardrobe, outfit recommender based on your clothes, what's in my fridge and laundry check. Some features like to do list, female periods tracker and expense manager exist but the user will have to download different applications for each purpose. But 'Being a human' application sort this problem out as it will include all the features in just one application. Also overall this application will be like a personal manager for every individual user as it will keep personal records and data of the user and the user can easily rely on the application. With time and after some in application surveys more features will be added into the application which will focus on improving, easing and enhancing user's lifestyle.

X. IMPROVEMENT AS PER REVIEWER COMMENTS

After discussing about this project idea with seniors and experts, some changes in work-flow and algorithms is done. After suggestions we added options to suggest nearby restaurants and salons, the number of days the period is delayed and next period date. Algorithm for color identification by using artificial intelligence in the virtual wardrobe feature is modified by picking multiple colors of the clothes, so the texture, designs and pattern colors are also picked for better suggestion and recommendation.

XI. FUTURE SCOPE

'Being a human' is a complete application every individual should have as it is a safe, secure and easy to use virtual manager of yours where you can save your data and recommendations is provided by the application. Features like virtual wardrobe, outfit recommender, what's in my fridge and laundry check are unique and till date there's no such application having these features. The features of the apps covers major lifestyle parts like assuring user's water consumption, medicine routine, female menstrual cycle tracker, expense manager, virtual wardrobe, outfit recommender and fridge management. Combining features of multiple apps with some unique features too, this application can really enhance, ease and improve human's lifestyle. In future, more features can be brought into the application by running in application surveys and discussion with the team members. In future family connecting features can be added which will let users allow seeing live location of their friends and family. Some other routine and lifestyle improving features can be added like in application meditation features, calming sounds and motivating podcasts.

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XII. REFERENCES

[1] Aaron E. Carroll (2015) 'No, You Do Not Have to Drink 8Glasses of Water a Day', The New York Times, pp-3-4

[2] Henri C.Schouwenburg 'Academic Procrastination Theoretical Notions, Measurement, and Research', Springer, Boston, pp-11, doi:https://doi.org/10.1007/978-1-4899-0227-6_4

[3] Simona Palm-Fischbacher, Ulrike Ehlert (2014) 'Dispositional resilience as a moderator of the relationship between chronic stress and irregular menstrual cycle', University of Zurich, pp-41, doi:https://doi.org/10.3109/0167482X.2014.912209

[4] Jofish Kaye , Mary McCuistion , Rebecca Gulotta , David A. Shamma (2014) 'Money talks: tracking personal finances', The SIGCHI Conference on Human Factors in Computing Systems, pp-8, doi:https://doi.org/10.1145/2556288.2556975

[5] Vastu Vidya, Vibhuti Chakrabarti (1999) 'Indian architectural theory : Contemporary uses of Vastu Vidya', CambridgeUniversity Press, pp-129, doi:https://doi.org/10.4324/9780203824368

[6] Y.-H. Kwon 'The influence of the perception of mood and self consciousness on the selection of clothing. Cloth. & Textiles Res.'J.,9(4):pp-41--46, doi:https://doi.org/10.1177/0887302X9100900406

[7] Sama PR, Eapen ZJ, Weinfurt KP, et al. 'An evaluation of mobile health application tools. JMIR Mhealth Uhealth' (2014), pp -3, doi:doi:10.2196/mhealth.3088

[8] Mihm, M., Gangooly, S. & Muttukrishna, S. The normal menstrual cycle in women. Anim. Reprod. Sci. 124, 229–236 (2011), doi:https://doi.org/10.1016/j.anireprosci.2010.08.030

[9] S. Liu, J. Feng, Z. Song, T. Zhang, H. Lu, C. Xu, and S. Yan. Hi, magic closet, tell me what to wear! In Proceedings of the 20th ACM international conference on Multimedia, pp 619--628, (2012), doi:https://doi.org/10.1145/2393347.2393433

[10] S.Miura, T. Yamasaki and K. Aizawa,Yuka Wakita, Kenta Oku, Hung-Hsuan Huang and Kyoji Kawagoe (2013)"SNAPPER: Fashion Coordinate Image Retrieval System," International Conference on Signal Image Technology Internet-Based Systems, Kyoto, 2013, pp. 786.

[11] Hrithik Gupta, Anant Prakash Singh, Navneet Kumar and J. Angelin Blessy (2020), 'Expense Tracker : A Smart Approach to Track Everyday Expense',easychair, pp-2-4

[12] Bhagya R Navada; K V Santhosh; S Prajwal; Harikishan B Shetty (2015) 'An image processing technique for color detection and distinguish patterns with similar color', IEEE Conference, pp-6, doi:10.1109/CIMCA.2014.7057818

[13] Seun Kola Olowokintan, Jashmeh Bhagwagar, Fay Al Braich, Avinash Sequeira, Abdulrahman Abubakar (2017), 'Virtual Wardrobe Management System', International Journal of Advanced Information Science and Technology, vol. 6, no. 8, pp. 14-18, doi:http://dx.doi.org/10.15693/ijaist/2017.v6i8.14-18

[14] Mustafa Degerli (2020) 'A Mobile Health Application for Healthy Living: HWOW (Healthier Work for Office Workers)', IEEEConference,doi:https://doi.org/10.1109/UYMS50627.2020.9247024

[15] Ying Huang, Tao Huang (2017) 'Outfit Recommendation System Based on Deep Learning', Advances in Computer Science Research, volume 74 170

[16] Marketa StastnaJan DvorakAli SelamatOndrej Krejcar (2017) 'Prediction of Conditions for Drying Clothes Based on Area and Temperature Data', Mobile Web and Intelligent Information Systems pp 57-69, doi:10.1016/j.procs.2012.06.094

[17] Junichi- 'Akita Real-time Color Detection System using Custom LSI for High-Speed Machine Vision' Real-time Color Detection System using Custom LSI for High-Speed Machine Vision. In: Veloso M., Pagello E., Kitano H. (eds) RoboCup-99, doi:https://doi.org/10.1007/3-540-45327-X_9

I. IIV.AUTHORS

First Author – Divyansh Arun, 4th Year B.tech IT Student, Sharda University. Email - 2018001292.divyansh@g.sharda.ac.in

Second Author – Karun Sahani, 4th Year B.tech IT Student, Sharda University. Email - 2018016383.karun@ug.sharda.ac.in

II. CORRESPONDENCE AUTHOR –

Ansh Gangwar , 4th Year B.tech IT Student, Sharda University. Email - 2018015514.ansh@ug.sharda.ac.in

Samrat Borah, 4th Year B.tech IT Student, Sharda University. Email - 2018015065.samrat@ug.sharda.ac.in

Gunjan Aggarwal, SUSET Assistant Professor, Sharda University. Email - gunjan.aggarwal@sharda.ac.in